In the claims

1. (Original) A method of diagnostic investigation of a sample from a biological organism, the method comprising the steps of:

determining at least one physical quantity of a sample, wherein said at least one physical quantity characterizes an interaction of said sample with sound waves, and

correlating said at least one physical quantity with reference data, which characterize at least one condition of said sample of said organism, for obtaining at least one diagnostic characteristic.

2. (Currently Amended) The method of claim 1, wherein said determining step comprises measuring ~~of at least one physical quantity from the group consisting of resonance frequency of sound waves, sound wave length, sound velocity, sound absorption,~~ viscosity~~, compressibility, mass density, shear wave parameter, acoustic impedance and refractive index of sound waves~~.

3. (Original) The method of claim 1, wherein said determining step comprises measuring said at least one physical value with a relative precision better than 10^{-3}.

4. (Original) The method of claim 1, wherein said determining step comprises measuring at least two physical quantities, said at least two quantities being measured at different temperatures and pressures of said sample.

5. (Original) The method of claim 1, wherein said determining step comprises measuring at least one relative quantity of said at least one physical value, said at least one relative quantity being measured as a difference or quotient of a first measured quantity obtained with said sample and a second measured quantity obtained with a reference sample.

6. (Original) The method of claim 5, wherein said determining step comprises measuring at least two relative quantities, said at least two relative quantities being measured at different temperatures and pressures of said sample and said reference sample, respectively.

7. (Original) The method of claim 1, wherein said determining step comprises a step of comparing said one or more physical quantities, a corresponding relative quantity, or a curve shape of said quantities or relative quantities with at least one threshold reference quantity or reference curve shape for obtaining said at least one diagnostic characteristic.

8. (Original) The method of claim 1, wherein said step of obtaining said at least one diagnostic characteristic comprises a detection of at least one biomolecule in said sample.

9. (Original) The method of claim 8, wherein said detection comprises a step of determining a presence of at least one protein, lipide or polysaccharide in said sample.

10. (Original) The method of claim 1, wherein said step of obtaining said at least one diagnostic characteristic comprises detecting of a disease of said biological organism.

11. (Original) The method of claim 10, wherein said detecting step comprises a step of detecting at least one disease comprising a neurodegenerative disease producing characteristic biomolecules in a body liquid of said organism.

12. (Original) The method of claim 1, further comprising a step of preparing said sample before said determining step, said preparing step comprising at least one of an addition of an additive to said sample, a purification of said sample or a separation of at least one component from said sample.

13. (Original) A method of diagnostic investigation of a CSF liquor sample from a human being or an animal, the method comprising the steps of:

measuring at least one sound velocity value in said prepared sample at, at least one temperature or pressure, and

evaluating said at least one value of sound velocity, a corresponding relative value, or a curve shape of values or relative values and detecting at least one predetermined disease producing biomolecule in the sample.

14. (Original) The method of claim 13, further comprising the step of preparing said sample, said preparing comprising separation of albumin and immunglobulines, before said measuring step.

15 - 18 (Withdrawn)